

U.S.S.N. 10/658,708

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Claim Amendments

Please amend claims 1, 3, 8, 11 and 12 as follows:

Please add new claims 21-31 as follows:

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Listing of Claims

1. (currently amended) An apparatus for dispensing a liquid onto a substrate frontside and backside during a development process and adjustably controlling liquid flow on said substrate backside during said development process to improve a rinsing step, comprising:

a support for receiving the substrate;

a dispensing head for dispensing the liquid onto the substrate;

a knife ring having a base and a tapered edge extending from said base, said knife ring vertically adjustably mounted beneath said support; and

a plurality of independently-actuated automatic vertical adjustment mechanisms operably engaging said base of said knife ring for placing said knife ring at selected vertical positions beneath the substrate during said development process.

2. (previously presented) The apparatus of claim 1 wherein said plurality of independently-actuated automatic vertical adjustment

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mechanisms comprise a plurality of fluid-actuated ring actuating cylinders.

3. (currently amended) The apparatus of claim 1 wherein said knife ring has a ~~width~~ diameter of about 290 mm.

4. (previously presented) The apparatus of claim 3 wherein said plurality of independently-actuated automatic vertical adjustment mechanisms comprise a plurality of fluid-actuated ring actuating cylinders.

5. - 6. (Canceled)

7. (previously presented) The apparatus of claim 2 wherein said plurality of fluid-actuated ring actuating cylinders is actuated by pneumatic pressure.

8. (currently amended) The apparatus of claim 7 wherein said knife ring has a ~~width~~ diameter of about 290 mm.

9. - 10. (Canceled)

11. (currently amended) An apparatus for dispensing a liquid onto

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a substrate frontside and backside during a development process and adjustably controlling liquid flow on said substrate backside during said development process to improve a rinsing step,  
comprising:

a support for receiving the substrate;

a dispensing head for dispensing the liquid onto the substrate;

a knife ring having a base and a tapered edge extending from said base, said knife ring vertically adjustably mounted beneath said support; and

a pair of independently-actuated hydraulic-powered ring actuating cylinders operably engaging said base of said knife ring in generally diametrically-opposed relationship to each other for placing said knife ring at selected vertical positions beneath the substrate during a development process.

12. (currently amended) The apparatus of claim 11 wherein said knife ring has a ~~width~~ diameter of about 290 mm.

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13. - 20. (Canceled)

21. (new) The apparatus of claim 1, wherein said vertical positions are selected from a position facilitating flow of liquid between said knife edge and said substrate backside and a position substantially preventing a flow of liquid between said knife edge and said substrate backside.

22. (new) The apparatus of claim 21, wherein said position facilitating flow of liquid between said knife edge and said substrate backside comprises a gap distance between an upper edge of said knife ring and said substrate backside of about 1.4 mm to about 1.4 mm.

23. (new) The apparatus of claim 21, wherein said position substantially preventing flow of liquid between said knife edge and said substrate backside comprises a gap distance between an upper edge of said knife ring and said substrate backside to prevent said liquid flow while said substrate is rotating.

24. (new) The apparatus of claim 21, wherein said position substantially preventing flow of liquid between said knife edge and said substrate backside comprises a gap distance between an

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upper edge of said knife ring and said substrate backside of about 0.1 mm to about 0.4 mm.

25. (new) An apparatus for dispensing a liquid onto a substrate frontside and backside during a development process and adjustably controlling liquid flow on said substrate backside during said development process to improve a rinsing step, comprising:

a support for receiving the substrate;

a dispensing head for dispensing the liquid onto the substrate;

a knife ring having a base and a tapered edge extending from said base, said knife ring vertically adjustably mounted beneath said support; and

a plurality of independently-actuated automatic vertical adjustment mechanisms operably engaging said base of said knife ring for placing said knife ring at selected vertical positions beneath the substrate during said development process;

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wherein said vertical positions are selected from a position facilitating flow of liquid between said knife edge and a substrate backside and a position substantially preventing flow of liquid between said knife edge and said substrate backside.

26. (new) The apparatus of claim 25, wherein said position facilitating flow of liquid between said knife edge and said substrate backside comprises a gap distance between an upper edge of said knife ring and said substrate backside of about 1.4 mm to about 1.4 mm.

27. (new) The apparatus of claim 25, wherein said position substantially preventing flow of liquid between said knife edge and said substrate backside comprises a gap distance between an upper edge of said knife ring and said substrate backside of about 0.1 mm to about 0.4 mm.

28. (new) The apparatus of claim 25, wherein said position substantially preventing flow of liquid between said knife edge and said substrate backside comprises a gap distance between an

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upper edge of said knife ring and said substrate backside to prevent said liquid flow while said substrate is rotating.

29. (new) The apparatus of claim 25 wherein said plurality of independently-actuated automatic vertical adjustment mechanisms comprise a plurality of fluid-actuated ring actuating cylinders.

30. (new) The apparatus of claim 29 wherein said plurality of fluid-actuated ring actuating cylinders is actuated by pneumatic pressure.

31. (new) The apparatus of claim 25 wherein said knife ring has a diameter of about 290 mm.